

the
embassy
of good
science

Recognition of the precarious academic self

Notes toward a performative virtue approach in
professional RI training and its practical
implications

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**To make a virtue of
necessity**

Method: Literature review

Preliminary results

- Education regarding **virtues** and **research integrity**
- Different research fields, such as psychology, philosophy, and social sciences
- No references on the slides, but as a commented bibliography for each topic

Virtue-ethics approach to AI training

What would the virtuous researcher do?

- Complement **norm- or compliance-based** training
- Emphasis on **internal values** and **virtuous characteristics of researchers**
- Cultivation of **epistemic** and **ethical scientific virtues**

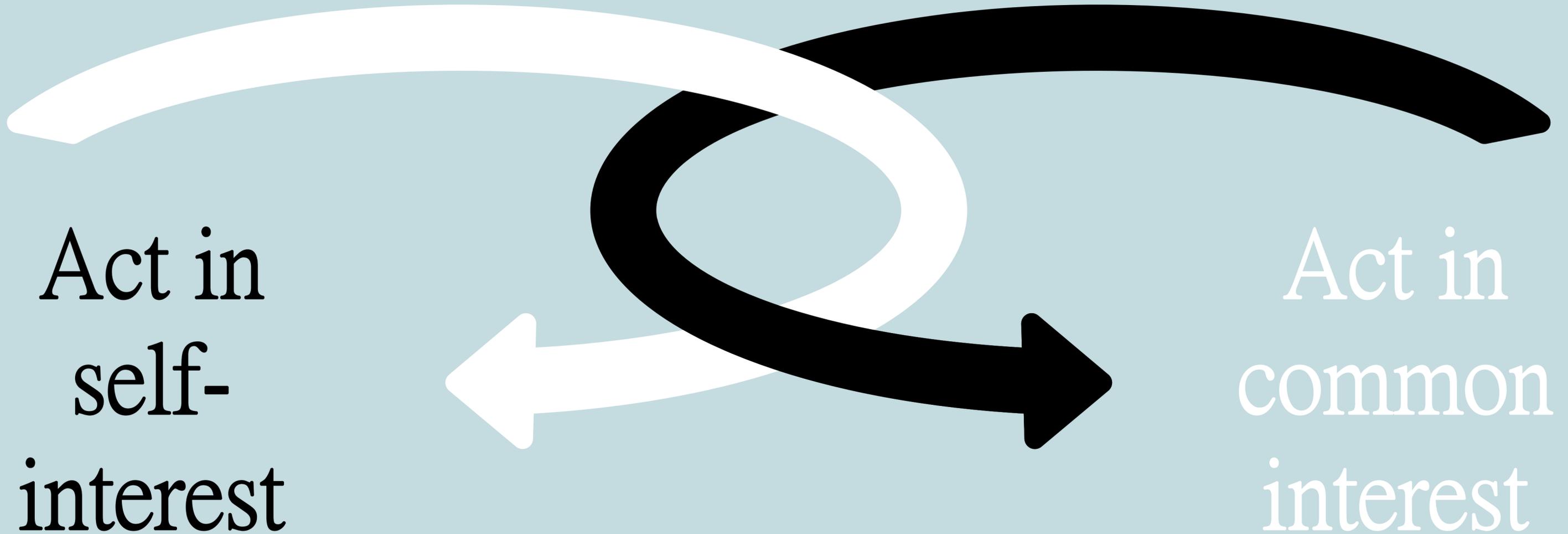
Possible reservations among participants

- Implicit questioning not only of scientific but also moral integrity?
- Systemic issues - Emphasis on individual responsibility misguided?
- How to implement in everyday practice?



**Issues RI training may
take into account**

Conflicting imperatives



Cognitive or moral dissonance



Behavior

Values

Dissonance reduction strategies

Change behavior

Change attitudes,
values or beliefs

Justify behavior

Self-justification strategies

Denial of
responsibility

Adding
consonant
cognitions in
accordance with
behavior

Self-affirmation

Trivialization

Distracting and
forgetting

Self-justification strategies

Don't hate the
player, hate the
game!

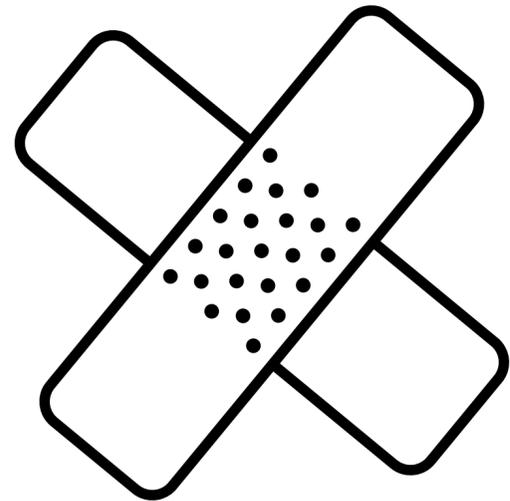
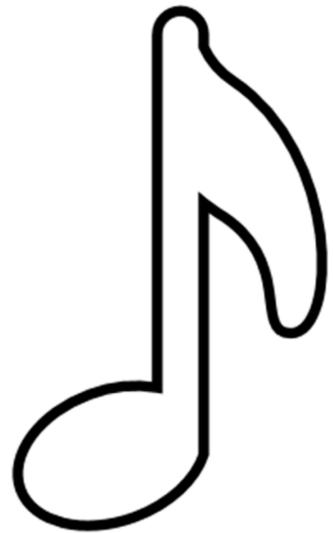
All the others
are doing it too.

If it wasn't for
me getting the
funding of the
project, they
would not even
be here.

Grow up, it's
time to get
acquainted with
the real world.

Note to myself:
I like birds.

Ideas for virtue-based RI training



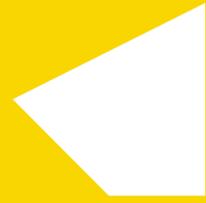
Ideas for virtue-based RI training

Tune in with our
built-in alert
system

Learn about and
from the mistakes
we make.

Maybe, at least
sometimes, act as
if we have
nothing to loose
but our integrity.

Find pleasure in
trying not to get
cynical.



**To make a virtue of
necessity**

Thank you

**the
embassy
of good
science**



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References

Virtue-ethics approach to AI training

Virtue-ethics

The notion of virtue ethics in this presentation is primarily informed by

MacIntyre, A. (2013). *After Virtue*. A&C Black.

Among others, the following contributions added significantly to the understanding of virtue ethics in educational settings:

Arthur, J., & Carr, D. (2013). Character in learning for life: a virtue-ethical rationale for recent research on moral and values education. *Journal of Beliefs & Values*, 34(1), 26–35. <https://doi.org/10.1080/13617672.2013.759343>

Baehr, J. (2013). Educating for Intellectual Virtues: From Theory to Practice. *Journal of Philosophy of Education*, 47(2), 248–262. <https://doi.org/10.1111/1467-9752.12023>

Battaly, H. (2016). Developing virtue and rehabilitating vice: Worries about self-cultivation and self-reform. *Journal of Moral Education*, 45(2), 207–222. <https://doi.org/10.1080/03057240.2016.1195732>

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Virtue-ethics approach to AI training

Virtue-ethics

Among others, the following contributions added significantly to the understanding of virtue ethics in educational settings:

Carr, D. (2017). Virtue and Character in Higher Education. *British Journal of Educational Studies*, 65(1), 109–124. <https://doi.org/10.1080/00071005.2016.1224806>

Crossan, M., Mazutis, D., & Seijts, G. (2013). In Search of Virtue: The Role of Virtues, Values and Character Strengths in Ethical Decision Making. *Journal of Business Ethics*, 113(4), 567–581. <https://doi.org/10.1007/s10551-013-1680-8>

Hicks, D. J., & Stapleford, T. A. (2016). The Virtues of Scientific Practice: MacIntyre, Virtue Ethics, and the Historiography of Science. *Isis*, 107(3), 449–472. <https://doi.org/10.1086/688346>

References

Virtue-ethics approach to AI training

Virtue-ethics approach to research integrity training

The account of a virtue-ethics approach to research integrity trainings is informed by Pennock & O'Rourke (2017). Along with their account of scientific virtues, it is acknowledged that they are regarded as both epistemic and ethical.

Pennock, R. T., & O'Rourke, M. (2017). Developing a Scientific Virtue-Based Approach to Science Ethics Training. *Science and Engineering Ethics*, 23(1), 243–262. <https://doi.org/10.1007/s11948-016-9757-2>

Berling, E., McLeskey, C., O'Rourke, M., & Pennock, R. T. (2018). A New Method for a Virtue-Based Responsible Conduct of Research Curriculum: Pilot Test Results. *Science and Engineering Ethics*, 1-12. <https://doi.org/10.1007/s11948-017-9991-2>

References

Virtue-ethics approach to RI training

Virtue-ethics approach to research integrity training

Further accounts of research integrity trainings based on virtue-ethics, see for example:

Nakamura, J., & Condren, M. (2018). A systems perspective on the role mentors play in the cultivation of virtue. *Journal of Moral Education*, 47(3), 316–332. <https://doi.org/10.1080/03057240.2018.1444981>

Salloum, S. (2017). The place of practical wisdom in science education: what can be learned from Aristotelian ethics and a virtue-based theory of knowledge. *Cultural Studies of Science Education*, 12(2), 355–367. <https://doi.org/10.1007/s11422-015-9710-8>

References

Virtue-ethics approach to AI training

Educational approaches based on virtue-ethics in general

Examples of more general accounts on educational approaches based on virtue-ethics:

Arthur, J., & Carr, D. (2013). Character in learning for life: a virtue-ethical rationale for recent research on moral and values education. *Journal of Beliefs & Values*, 34(1), 26–35. <https://doi.org/10.1080/13617672.2013.759343>

Baehr, J. (2013). Educating for Intellectual Virtues: From Theory to Practice. *Journal of Philosophy of Education*, 47(2), 248–262. <https://doi.org/10.1111/1467-9752.12023>

Baehr, J. (2016). Is intellectual character growth a realistic educational aim? *Journal of Moral Education*, 45(2), 117–131. <https://doi.org/10.1080/03057240.2016.1174676>

Salloum, S. (2017). The place of practical wisdom in science education: what can be learned from Aristotelian ethics and a virtue-based theory of knowledge. *Cultural Studies of Science Education*, 12(2), 355–367. <https://doi.org/10.1007/s11422-015-9710-8>

References

Conflicting imperatives

Managerial imperatives vs. imperatives striving towards an ideal of science:

Felt (2017), among others, point out that due to more managerial imperatives, the focus in academia shifts from a „logic of discovery to one of delivery“ (p.53)

Felt, U. (2017). Under the Shadow of Time: Where Indicators and Academic Values Meet. *Engaging Science, Technology, and Society*, 3(0), 53–63. <https://doi.org/10.17351/ests2017.109>

For a discussion and problematization of academics‘ struggle to strive after the ideal academic self while occupied with managerial tasks and careerism, see for example:

Harding, N., Ford, J., & Gough, B. (2010). Accounting for ourselves: Are academics exploited workers? *Critical Perspectives on Accounting*, 21(2), 159–168. <https://doi.org/10.1016/j.cpa.2009.08.008>

Clarke, C. A., & Knights, D. (2015). Careering through academia: Securing identities or engaging ethical subjectivities? *Human Relations*, 68(12), 1865–1888. <https://doi.org/10.1177/0018726715570978>

References

Conflicting imperatives

Managerial imperatives vs. imperatives striving towards an ideal of science:

For a discussion of the effects of the primacy of quantitative assessments of research(ers') practices in an emerging audit culture, see for example:

Shore, C. (2008). Audit culture and Illiberal governance: Universities and the politics of accountability. *Anthropological Theory*, 8(3), 278–298. <https://doi.org/10.1177/1463499608093815>

For a discussion of the “perverse incentives” in current research culture, see for example:

Bouter, L. M. (2015). Commentary: Perverse Incentives or Rotten Apples? *Accountability in Research*, 22(3), 148–161. <https://doi.org/10.1080/08989621.2014.950253>

References

Conflicting imperatives

Goods of efficiency vs. Goods of excellence:

It is important to note that MacIntyre (2013, p. 187ff) recognizes that both goods of efficiency and goods of excellence are good things to have and both necessary goods. Consequently, no one could possibly want research to be inefficient.

MacIntyre, A. (2013). *After Virtue*. A&C Black.

Nonetheless, Hicks and Stapleford (2016, p. 485) stress the ethical differences between the two goods in the realm of scientific practices. Moreover, they outline that striving for the goods of excellence in research means appropriate engagement in the respective communal practice (e.g. of sociology):

Hicks, D. J., & Stapleford, T. A. (2016). The Virtues of Scientific Practice: MacIntyre, Virtue Ethics, and the Historiography of Science. *Isis*, 107(3), 449–472. <https://doi.org/10.1086/688346>

References

Conflicting imperatives

Contradictions immanent to the scientific endeavor vs. transgressions of research integrity

On the immanent contradictions of the scientific endeavor, see for example:

Kulikov, S. B. (2019). Scientific Ethos and Foundations of Conscious Activity. *Integrative Psychological and Behavioral Science*, 1-21. <https://doi.org/10.1007/s12124-019-09483-6>

For a discussion on research integrity in the light of the immanent uncertainties of the scientific endeavor, for example when struggling with the meaning of data, see for example:

De Vries, R., Anderson, M. S., & Martinson, B. C. (2006). Normal Misbehavior: Scientists Talk about the Ethics of Research. *Journal of Empirical Research on Human Research Ethics*, 1(1), 43–50. <https://doi.org/10.1525/jer.2006.1.1.43>

References

Possible reservations among participants

Research integrity issues due to systemic circumstances

On possible reservations of researchers against emphasizing the individual responsibility, see for example:

Davies, S. R. (2018). An Ethics of the System: Talking to Scientists About Research Integrity. *Science and Engineering Ethics*, 1-19. <https://doi.org/10.1007/s11948-018-0064-y>

Shore, C. (2008). Audit culture and Illiberal governance: Universities and the politics of accountability. *Anthropological Theory*, 8(3), 278–298. <https://doi.org/10.1177/1463499608093815>

On possible reservations of researchers as autonomous adults to moral education, see for example:

Carr, D. (2017). Virtue and Character in Higher Education. *British Journal of Educational Studies*, 65(1), 109–124. <https://doi.org/10.1080/00071005.2016.1224806>

References

Possible reservations among participants

Research integrity issues due to systemic circumstances

On a systemic perspective of scientific work that may be integrated in research integrity training, see for example:

Nakamura, J., & Condren, M. (2018). A systems perspective on the role mentors play in the cultivation of virtue. *Journal of Moral Education*, 47(3), 316–332. <https://doi.org/10.1080/03057240.2018.1444981>

References

Cognitive dissonance

Cognitive Dissonance Theory

Cognitive dissonance theory was initiated by Festinger (1957):

Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford University Press.

Cognitive dissonance theory was selected for this presentation to simplify the argument. Arguably, there are more up-to-date accounts and models that have significantly improved our understanding on the psychological and neuronal foundations of cognitive dissonance theory and its successors. For a recent discussion, see for example:

McGrath, A. (2017). Dealing with dissonance: A review of cognitive dissonance reduction. *Social and Personality Psychology Compass*, 11(12), e12362. <https://doi.org/10.1111/spc3.12362>

Vaidis, D. C., & Bran, A. (2018). Some prior considerations about dissonance to understand its reduction: Comment on McGrath (2017). *Social and Personality Psychology Compass*, 12(9), e12411. <https://doi.org/10.1111/spc3.12411>

References

Cognitive dissonance

Cognitive Dissonance Theory in ethics education

Cognitive Dissonance theory states that people perceive a psychological discomfort that comes from the feeling that one's personal values remain unfulfilled, compare for:

Peters, R., & Filipova, A. (2009). Optimizing Cognitive-Dissonance Literacy in Ethics Education. *Public Integrity*, 11(3), 201–220. <https://doi.org/10.2753/PIN1099-9922110301>

Arguably, researchers cannot not value the ideal of science without compromising the role of being a researcher, compare for example:

Clarke, C. A., & Knights, D. (2015). Careering through academia: Securing identities or engaging ethical subjectivities? *Human Relations*, 68(12), 1865–1888. <https://doi.org/10.1177/0018726715570978>

References

Cognitive dissonance

Cognitive Dissonance Theory in ethics education

Building upon negative emotions in training can have adverse effects. For a discussion on possible positive effects of negative emotions, see for example:

Vaccarezza, M. S., & Niccoli, A. (2018). The dark side of the exceptional: On moral exemplars, character education, and negative emotions. *Journal of Moral Education*, 1–14.
<https://doi.org/10.1080/03057240.2018.1534089>

References

Cognitive dissonance

Are scientists primarily good or bad?

Aiming to address cognitive dissonance in training presumes that researchers cannot not relate to the values the scientific endeavor relies upon. The question of whether it is right to assume that people are inherently good or bad is a philosophical question that is by far beyond the scope of this presentation. It is argued, though, that researchers cannot not value the ideal of science without compromising the role of being a researcher, compare for example:

Clarke, C. A., & Knights, D. (2015). Careering through academia: Securing identities or engaging ethical subjectivities? *Human Relations*, 68(12), 1865–1888. <https://doi.org/10.1177/0018726715570978>

Whether it should be assumed that individuals need rules and punishments in order to act ethically or not is inspired by Crossan et al. (2013; in particular p. 570f)

Crossan, M., Mazutis, D., & Seijts, G. (2013). In Search of Virtue: The Role of Virtues, Values and Character Strengths in Ethical Decision Making. *Journal of Business Ethics*, 113(4), 567–581. <https://doi.org/10.1007/s10551-013-1680-8>

References

Self-justifying strategies

Cognitive Dissonance Theory in ethics education

By applying self-justifying strategies to reduce the discomfort of moral or cognitive dissonance, we may develop an ignorance towards our own unethical behavior, see for example:

Vasquez, K., Oswald, D. L., & Hammer, A. (2019). Being dishonest about our prejudices: moral dissonance and self-justification. *Ethics & Behavior*, 1–23. <https://doi.org/10.1080/10508422.2019.1568877>

About the ignorance towards our own ignorance, compare for example:

Battaly, H. (2016). Developing virtue and rehabilitating vice: Worries about self-cultivation and self-reform. *Journal of Moral Education*, 45(2), 207–222. <https://doi.org/10.1080/03057240.2016.1195732>

References

Ideas for virtue-based RI training

Virtue-based orientation

In their virtue-based model of ethical decision-making, Crossan et al. (2013) outline how a “virtue-based orientation” (p. 573) may be a means of resilience for individuals who are trying to navigate between high situational pressures and demands for ethical behavior. It may be beneficial to keep this account on virtue-ethics in mind. See:

Crossan, M., Mazutis, D., & Seijts, G. (2013). In Search of Virtue: The Role of Virtues, Values and Character Strengths in Ethical Decision Making. *Journal of Business Ethics*, 113(4), 567–581. <https://doi.org/10.1007/s10551-013-1680-8>

References

Ideas for virtue-based RL training

Integrity Training based on Cognitive dissonance

An example for the use cognitive dissonance theory as a basis for integrity training (in this case, for police officers):

McClurg, A. J. (June 25, 2010). Good Cop, Bad Cop: Using Cognitive Dissonance Theory to Reduce Police Lying. University of California-Davis Law Review, Vol. 32, 1999; University of Memphis Legal Studies Research Paper No. 30. Available at SSRN: <https://ssrn.com/abstract=1630533>

There may be a significant overlap between the notion of cognitive dissonance (and the implications drawn) in this presentation and what Bernstein (2016; see p. 19ff) in reference to Lear (2011) refers to as “ironic disruptions”:

Bernstein, R. J. (2016). *Ironic Life*. Malden, MA: Polity.

Lear, J. (2011). *A Case for Irony*. Cambridge: Harvard University Press.

References

Ideas for virtue-based RI training

Reduction of the influence of cognitive biases and self-justifying strategies in ethical-decision making among researchers:

Medeiros et al. (2014), among others, give an overview of cognitive biases prevalent among university staff and Mecca et al. (2016) give valuable insights on the efficacy of a training intervention based on the finding of Medeiros et al. (2014):

Medeiros, K. E., Mecca, J. T., Gibson, C., Giorgini, V. D., Mumford, M. D., Devenport, L., & Connelly, S. (2014). Biases in Ethical Decision Making among University Faculty. *Accountability in Research*, 21(4), 218–240.

<https://doi.org/10.1080/08989621.2014.847670>

Mecca, J. T., Medeiros, K. E., Giorgini, V., Gibson, C., Mumford, M. D., & Connelly, S. (2016). Biases and Compensatory Strategies: The Efficacy of a Training Intervention. *Ethics & Behavior*, 26(2), 128–143.

<https://doi.org/10.1080/10508422.2014.997878>

References

Ideas for virtue-based RL training

Reduction of the influence of cognitive biases and self-justifying strategies in ethical-decision making:

Among others, Cassam (2019) recently introduced an account on how epistemic vices may influence unethical decision-making. Moreover, he gives an overview on how these vices may be corrected (above all, chapter 8 “Self-improvement“, p. 167-187):

Cassam, Q. (2019). *Vices of the Mind*. Oxford: Oxford University Press.

References

Ideas for virtue-based RL training

On finding pleasure in not getting cynical:

On humor as a means of cultivating moral virtues, see for example:

Gordon, M. (2010). Learning to Laugh at Ourselves: Humor, Self-Transcendence, and the Cultivation of Moral Virtues. *Educational Theory*, 60(6), 735–749. <https://doi.org/10.1111/j.1741-5446.2010.00387.x>

References

Ideas for virtue-based RL training

Further aspects that may be taken account in virtue-ethics training:

Self-determination theory (SDT) may be an adequate motivational framework for trainings aiming to foster the cultivation of scientific virtues. On the correlation between the SDT and virtue-ethics, see for example:

Arvanitis, A. (2017). Autonomy and morality: A Self-Determination Theory discussion of ethics. *New Ideas in Psychology*, 47, 57–61. <https://doi.org/10.1016/j.newideapsych.2017.06.001>

Iizuka, R. (2018). Situationism, virtue epistemology, and self-determination theory. *Synthese*, 1-24. <https://doi.org/10.1007/s11229-018-1750-7>

On the necessity, that not only individuals but also organizations need to be virtuous for individuals to act as their best ethical self, see for example:

Rambur, B., Vallett, C., Cohen, J., & Tarule, J. (2010). The moral cascade: distress, eustress, and the virtuous organization. *Journal of Organizational Moral Psychology*, 1(1), 41-54.